

Multimodal teaching and learning: researching digital storytelling on iPads in the primary school classroom to develop children's story writing

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Introduction

This small-scale exploratory case study was undertaken in the summer of 2014. Its primary aim was to investigate whether using iPads to create multimodal digital stories can support children's motivation, confidence and skills in story telling, structuring and writing. A further aim was to explore the practical issues relating to making successful digital stories on iPads in a primary school environment.

According to Robin (2008), "Digital storytelling at its most basic core is the practice of using computer-based tools to tell stories" (p. 429). In the context of this study, the tools were iPads and the iMovie application. The resulting stories were short (2-3 minute) audio-visual narratives, consisting of voice recordings of children reading scripts they had written, combined with digitised images of their own drawings and other visual material and images from the internet. Opening and closing titles were the only form of written text visible in the stories.

The study was conducted over a four week period in an inner-city 3-11 Primary Community School in the north east of England. The participating Year 5 class (age 9-10) of 26 pupils was described by the class teacher as "very mixed", containing a range of attainment in literacy from PIVATS (Performance Indicators for Value Added Target Setting – for pupils whose statutory assessment performance falls below national expectations) levels to National Curriculum levels 5 and 6. Five children did not have English as their first language and four had Individual Education Plans for their additional support needs. One child was statemented and the education psychologist was involved with two more.

The class teacher had taken a systematic and highly structured approach to teaching story writing prior to the intervention. This included the children reading stories and breaking them

down to understand how they are constructed, as models for their own writing. There was close integration of spelling punctuation and grammar (SPAG) instruction. The children would spend half an hour each morning working on a SPAG topic such as extended noun sentence or personification and then write sentences using that feature in their own stories. It would take three or four weeks to write a full story in this way, incorporating the modelled devices and SPAG features.

In her view, this approach had led to some ‘outstanding progress’ in writing over the year, but she was concerned that the children’s imaginative writing needed developing. She attributed this to her perception that, apart from a few girls, most children in the class did not read many books outside school and therefore lacked a sufficiently rich store of ideas and models to draw upon when it came to writing their own stories.

With reference to the ICT environment, the school had recently made iPads the central vehicle for ICT use in the classroom. Five iPads were permanently on charge in the classroom; they were used frequently and children were confident operating them. The room was equipped with an interactive whiteboard and digital projector with wireless AirPlay facilities for screening the completed stories. The class teacher had undertaken iPad training within school and was a confident user.

Theoretical framework

In the following section, the intention is to present a brief introduction to the forms and purposes of digital storytelling. An attempt is made to define what is meant, in the context of this study, by terms such as “multimodality”, “text” and “traditional” and “new” literacies. Ideas about the “affordances” of digital storytelling and the powerful influences of digital devices such

as iPads on literacy will be presented, alongside a critique of recent writing development practices in the face of instrumental approaches to state-mandated education policies. It is not the intention to provide a detailed account of writing development theory and practice.

The model on which much digital storytelling practice is based was pioneered by the Centre for Digital Storytelling (CDS) in the USA, which focused mainly on adult and youth participants exploring significant personal experiences. In this tradition, digital storytelling is characterised as a democratic form of storytelling, allowing unheard voices to be heard and celebrating the “creative expression of the common folk, of the non-professional artist” (Lambert 2010, cited in Gregori & Pennock, 2012). The digital media tools used make it suitable for self-reflection, self-discovery and for exploring issues of identity, sometimes for therapeutic purposes.

However, claims are also made for the educational value of digital storytelling for young people and children in schools. Adding “digital stories that examine historical events” and “stories that inform or instruct” as categories to supplement the “personal narrative” genre pioneered by CDS, Robin (2008) claims it can be a “potent tool for students who are taught to create their own stories” (p. 431), helping to generate interest and engagement, social learning and skills such as research, communication and critiquing.

In making their digital stories, the children in this study were involved in creating multimedia, or rather, “multimodal” texts. “Text” here is taken to mean “anything that can be read and comprehended or constructed to share meaning and includes reading, writing, speaking, listening and viewing practices” (Skinner & Hagood, 2008, p.13).

This all-encompassing definition of text comes from a “new literacies” perspective, which recognises that literacy is no longer print-bound and that 21st century digital demands require the understanding and use of both print and non-print formats. This view has been formally accepted in the English language curricula of some education systems. Singapore, for instance, expanded teaching of the four language skills of reading, writing, speaking and listening to include “viewing” as a fifth (Churchill et al, 2008).

Andrews & Smith (2011) make a useful distinction between “multimedia” and “multimodal”: “multimedia” refers to the vehicles through which communication is made – pen and paper, computer screen, mobile phone, radio, etc.; whereas “multimodal” refers to the different modes of communication – speech, writing, still or moving visual image, physical gesture, etc. According to Nordmark & Milrad (2012), digital technologies have been the cause of a “paradigm shift” towards multiple and especially visual modes of communication, meaning that “Speech and writing simply no longer suffice as sole means for understanding communication and meaning making” (Nordmark & Milrad, 2012, p.10). Andrews & Smith agree that “it is no longer possible to conceive of ‘English’ and writing development in terms of teaching and learning a single, monomodal system: written script” (Andrews & Smith, 2011, p.100).

Nevertheless, Parry (2010) argues that literacy has for some time been a particular target of centrally regulated curriculum strategies such as the National Literacy Strategy, which in terms of writing placed a “strong emphasis on teaching grammar and spelling, word- and sentence- level objectives separated from their context” (Parry, 2010, p.63). Further, high stakes testing has encouraged teacher-led activities that leave little time for children to explore their

own ideas in independent writing. Andrews & Smith (2011) argue that this over-emphasis on writing as a *system*, which children clearly need to learn, nevertheless separates their writing from its contexts and purposes in the wider world; they argue that a new theory of writing development is needed that addresses this imbalance and places writing development within a theory of multimodality in a digital age.

According to Skinner & Hagood (2008), a social practice perspective of literacy recognises the sophisticated literacy competencies, cultural resources and purposes that children and adolescents bring to literacy learning. These include multimodal, digital texts related to popular culture that are “highly motivating, and, as such, can serve as valuable scaffolds for students’ academic learning” (Skinner & Hagood, 2008, p.12). This expansive view of what counts as ‘literacy’ can empower boys who “revel in non-traditional school text” (ibid. p. 24). Robin (2008) argues that digital storytelling can support not only the traditional literacies of reading and writing print text, but a wider “Twenty-First Century Literacy”, which includes visual literacy, information literacy, technology literacy, global literacy and digital literacy. From this perspective, literacy is “no longer an end point to be achieved but rather a process of continuously learning how to be literate” (Leu, 2001, cited in Brown, Bryan & Brown, 2005).

Yet national policies dictate that teachers focus “almost exclusively on foundational literacies, the literacies needed to be successful in school such as: decoding and reading comprehension of print-based texts; written composition of academic texts; and oral fluency with Standard English grammar and vocabulary” Skinner & Hagood, 2008, p. 13). According to Sylvester & Greenidge (2009) “state-mandated” assessments of writing have contributed to students identifying themselves as “struggling writers” and “Teachers who are ensconced in

inequitable literacy practices that limit students' writing opportunities to experiences that prepare them for testing ... are, to a degree, silencing their students as writers" (p. 286). Their research shows that creating digital stories can be a motivating and engaging experience for different types of "struggling writers". For those who are reluctant to review or edit, making a "movie" gives their writing purpose and a more immediate sense of writing for an audience, which encourages them to write more clearly and critically. For those who are easily distracted from the solitary, linear task of traditional story writing, the multiplicity of interactive and often collaborative tasks involved in making a digital story absorbs the learner and reduces distractions. For writers who struggle with detail and plot development, the use of storyboards in digital storytelling helps them to visualise the unfolding of the story and reveals gaps in detail.

Similarly, in a study of the role of film and media in developing children's understanding of narrative, Parry (2010) argues that "When they are offered opportunities to create stories in a range of media forms, some children can demonstrate an understanding of story far richer than they can express in writing" (p. 69). She concludes that "children must be supported to draw on their holistic understanding of narrative in order to move from one media to another when reading and making their own stories" (p.58).

While practices that are prescribed by national strategies may be one reason for relatively limited use of multimedia digital technology to advance literacy, teachers' lack of technological know-how and confidence, along with concerns about equipment, infrastructure and support, may be another. With reference to digital storytelling, Nordmark & Milrad (2012) voice their concern that it is the 'digital' part that has received the most attention, and that this can alienate teachers. In fact, they argue, the technical features of digital storytelling can be very simple; it is

the story itself and the multimodal processes involved in telling it that should be the main focus. Their study centres on using mobile devices for digital storytelling in the form of smartphones and iPod Touch devices. They argue that these devices are already well integrated into children's lives and can offer unique affordances for the seamless integration of formal learning activities and informal play (and therefore for learning and self-expression), which the more stationary kinds of technology, such as PCs and laptops cannot provide.

With specific reference to iPads, Flewitt et al (2014) argue that such mobile digital devices are playing an increasingly direct and significant role in experiences of early literacy. As digital devices become more and more integrated into home and community life, children are becoming immersed in digital communication at the same critical period of their lives as that in which their literacy skills are emerging and their identities as learners are being formed. The devices act as cultural tools or artefacts, opening new "worlds" to children through which they "figure" whom they are: "As mediating artefacts, we posit that iPads are one of many cutting-edge, culturally powerful yet enigmatic technological tools with the potential to invoke empowering "figured worlds" for young learners concerning themselves and their attitudes towards literacy" (Flewitt et al, 2014, p. 3).

Method

Digital storytelling activities with the children took place over four consecutive Monday afternoons in the Year 5 classroom.

In week 1, the children were introduced to the project and shown a digital story that had been especially made to fit with their current topic on the wonders of the ancient world. Following further discussion and sharing of ideas, they were tasked with making their own

digital story. The stories were to be no longer than 3 minutes/350 words and incorporate sound (voice narration) and images (a combination of their own drawings and internet images). The story had to have a main character and be told in the first person, from that character's viewpoint, as the character undertook a journey to a real or imagined "wonder of the world".

The first step was to storyboard their ideas, using simple sketches to outline each stage of the story, as opposed to the detailed written plans they were used to making. Once completed, they were encouraged to tell their stories to a partner, using the storyboards as their structure, so they could hear what it sounded like. Writing up the story as a script was set for homework and the children were also given the rest of the week to complete their illustrations (full page, colour versions of the storyboard sketches) and to source other still images.

A group of six children (four boys and two girls) had been selected by the class teacher for initial training in how to make a digital story. The group was also the focus group for two interviews with the researcher. They were selected to reflect a range of ability in literacy and for having the necessary confidence to contribute in the interviews and to lead a group of their peers. They created their digital stories in weeks 2 and 3 and showed them to the rest of the class on the interactive whiteboard. Each member of the lead group then began the process of teaching four or five others to make their digital stories. By the end of week 4, all the completed stories had been screened.

Data collection

The case study was based on qualitative data collection methods, namely observations and interviews.

Observations

The researcher and the class teacher acted as participant observers during all the activities. This allowed the perspectives of both the “insider” (in this case the class teacher), who is in tune with the context and understands the significance of what is happening (Campbell et al, 2004), and the more general perspective of the “outsider-looking-in” to be reflected in the data, though the researcher’s active involvement in the lessons quickly led to him being absorbed into the natural setting of the classroom as an “active-member-researcher” (Adler & Adler 1994, cited in Punch, 2009). Observation notes were compared and discussed immediately after the lessons and were written up as soon as possible afterwards by the researcher as a full narrative account of the lesson, with the addition of interpretive comments, questions and reflections.

The observations took place in the natural setting of the classroom and other areas where the activities took place. In this fluid and dynamic situation, observers noticed and recorded anything they felt to be relevant while simultaneously interacting with, supporting and managing the children. However, observations were also semi-structured in that observation sheets contained the following prompts, arising from the review of literature, as areas for investigation:

- Motivation & engagement (including the effect of multimodal learning on engagement)
- Imagination and storytelling ideas
- Communication skills
- Social learning
- Self-esteem

- Ease of use (of technology, for children and teachers)

Punch (2009) states that combinations of unstructured and structured observation approaches are possible, depending on the research purpose and context (p. 155). In this case, the research purpose, i.e. to test the hypothesis that there was potential value for the integration of digital storytelling into writing practice, and the research context of a short timescale, made some structure desirable, while at the same time leaving space for recording unanticipated phenomena.

Interviews

The researcher conducted two semi-structured focus group interviews with the six children who formed the lead group. The first was conducted at the start of the project, to capture their attitudes towards story writing in school. The second was conducted at the end, to capture their reactions to making and showing their digital stories. Both interviews took place in the respondents' natural setting, i.e. a classroom and the school library. They were recorded with the informed assent of the children, who had been told from the start that this was a research project and that they had an active role as co-investigators, helping us to identify what was positive or negative about digital storytelling. They knew we would share the findings with trainee teachers at the university, a role they could identify with through their past experiences of student teachers in their own classroom.

One advantage of using group interviews was that it enabled the researcher to gather data from children with a range of writing ability in a time-efficient manner. Group interviews can increase the comfort level of participants and be useful for revealing beliefs, attitudes and feelings (Wilson, 2009).

The researcher also conducted an evaluation interview with the class teacher. This was semi-structured in that an interview schedule was devised and followed. However, in line with the symbolic interactionist view “where the interview is seen as a social event based on mutual participant observation” (Punch, 2009, p. 152), the interview also became a dialogue in which both participants attempted to make meaning.

A thematic analysis of the transcribed interview and observation data was conducted using the themes identified in the literature review. At the same time, there was iterative and rigorous analysis of the data to identify any significant unanticipated themes.

Data analysis

In this section, the most frequently occurring and significant data from the thematic analysis are integrated with significant unanticipated findings to form four new themes for discussion:

- Motivation and engagement (including the effect of multimodal learning on engagement)
- Access to the curriculum (including streamlining of the composition process, imagination and storytelling ideas and impact on self-esteem)
- Social learning (including sharing and communication)
- Ease of use (technical and logistical)

Motivation & engagement (including the effect of multimodal learning on engagement)

Motivation and engagement levels were high throughout the four sessions:

Fully engaged, discussing ideas and already talking through their story. Using iPads to research area and 7 Wonders. (Class teacher's observation notes, lesson 1)

The overall atmosphere in the class was one of engagement and concentration on 'getting on' with the task – very task focused. (Researcher's observation notes, lesson 3)

This led to some notable individual successes, especially for some of the lower attaining pupils, as will be shown.

The quality of the stories provided another indication of the high levels of engagement. Some were notable for having used a great deal of vocal expression in the recording of the script. Others used quite sophisticated storytelling devices and structures, for example openings that immediately grabbed the viewer's attention and put the viewer inside the story. Many were lively and energetic stories, where the pictures worked effectively with the script to move the story along and some were quite mature in their understanding of narrative in a short video form. In adapting to this form, children showed they were able to build on the foundations provided by their usual story writing instruction and practice.

For the class teacher, the multimodal nature of the activities had a strongly motivating effect that in turn led to some high levels of self-organisation and independent learning. Each child made a storyboard, wrote a script, selected internet images to fit with the story, drew and photographed their own images, recorded their scripts and synchronised images to the soundtrack:

It was the combination of everything together ... they loved that because there wasn't time to get bored. It was literally like - next job, next job, next job - and their imagination just suddenly took off with them ... They were almost organising themselves into little timetables, which was very interesting. (Class teacher, in interview)

This corresponds to Walsh's (2010) description of a naturally integrated and holistic learning experience.

The multimodal nature of the activities also appealed to the children:

I enjoyed it much better because you are doing 3 different things. So you will draw your pictures, which is fun to make, then you do your writing which is only 350 words which isn't too much and then you do the fun part of doing your digital story so there's an order to it. (Madeleine, in group interview)

Scripts were written, but writing was not the only or dominant mode. Rather, it was one of a number of inter-related modes that were creatively combined to make a story. As Andrews & Smith (2011) suggest, multimodal approaches bring the act of writing closer to composition:

by changing the emphasis to composing rather than writing, the pressure is taken off writing as a medium of instruction and as a system to be learnt. There is no doubt that it still has to be learnt. But when writing is seen as composition, the wider aperture brings colour to the act of writing. (p.136)

This, for some, clearly helped to move to one side a barrier. However, for a very small minority of boys, the loosening of teacher control and structure presented more of a challenge and one or two did not complete a digital story.

During the final lesson, one girl volunteered that she had downloaded and used iMovie at home and made three of her own digital stories. An impromptu show of hands followed, in which all of the 26 children present said they had access to a smartphone, iPad, or other tablet at home; 15 said they had also tried iMovie since starting the project. The researcher was wary of this evidence, given the mixed social and economic nature of the school catchment area and the possibility that children would not want to appear the “odd one out”. However, the class teacher thought the numbers were credible, having had several conversations with children who were saving money from Christmases and birthdays to fund the cost of a device. A recent evaluation of an iPad project across a network of primary schools in Cardiff (Beauchamp & Hillier, 2014), indicates high levels of home ownership of technology, with all the parents surveyed (from a range of catchment areas) saying they owned at least one mobile device, 94% of which had internet capability and 55% of which were Apple iOS⁸ devices, using the same operating platform as iPads. It is important to note however that this was a small-scale survey (52 parents in 4 schools).

Access to the curriculum (including streamlining of the composition process, imagination and storytelling ideas and impact on self-esteem)

There were wide variations in how easy or difficult individual children found it to generate ideas, but the difference was that all the children who normally struggle with writing completed a digital story:

I think what was nice was you saw closure of each story, they had a middle, beginning and end. A lot of my children have fantastic starts but because it takes them so long to write it I never get an end. (Class teacher, in interview)

A particularly notable case was Thomas. Thomas was described by the teacher as having “brilliant ideas”, but a block when it comes to writing things down, due to poor pencil skills and, as a result, experiences low self-esteem as a writer. However, he demonstrated an immediate connection and engagement with the concept of digital storytelling that led to swift progress in the first lesson and his “promotion” by the teacher to the lead group in the second lesson, following which he led a small group of four or five others, teaching them how to make their stories in turn: “His self-esteem soared, he even ran out of school telling his mum that it [his digital story] had been shown, you know, so brilliant!” (Class teacher, in interview). It has been shown elsewhere that when a teacher identifies a skill or interest of a child and values it, it can transform self-esteem and behaviour (Cooper, 2011).

Using storyboards as a quick, visual planning tool (as opposed to writing out at length the details of plot, character and setting) was a significant factor in helping children to establish the “narrative arc” for their story. It gave them a ready-made structure, which, in Thomas’ case, he was then able to turn into paragraphs:

he did such a fantastic story because he could write it on a storyboard so it had no writing on. And then he told me the story before he wrote it, it became so easy for him to do ... it was his ideas and he even put them into paragraphs. I’ve never seen him write a paragraph, yet because he had a storyboard to choose [he was

saying] “right, new paragraph for that box, that box...” (Class teacher, in interview)

Thomas explained how storyboarding helped him:

when I’m writing a story I try to throw more and more words in. In that [a digital story], I can work out what I actually want to put instead of just describing word, describing word, describing word, describing word (Thomas in group interview)

This suggests that Thomas is aware of the requirement to make his story interesting through use of language, yet focusing on these technical aspects prevents him from executing his narrative ideas. This time, having quickly formulated the narrative structure in the storyboard, he was highly motivated to produce a written script, helped further by the fact that its purpose was to provide a soundtrack for his video, a medium he clearly understood well and felt confident about. Interestingly his script, when written, naturally incorporated rhetorical questions, exclamation marks, ellipses and colourful, action-oriented verbs that enhanced the narrative. He was also immediately conscious of mistakes in his writing when he recorded it, suggesting that there is the potential for later editing and improving for re-recording. Thomas’ experience ties in with the view of Andrews & Smith (2011) that “An over-emphasis on form and structure tends to drain energy from the writing process which involves motivation to write, engagement with the audience, the formation of ideas or elements to be included and *then* a concentration on form” (Andrews & Smith, 2011, p.17).

Able writers who struggle to write imaginatively also benefited from a multimodal approach:

Diana is a brilliant writer but she's very set in her ways, very gifted and talented, brilliant mathematician, but she cannot step away from the real world. She doesn't get fiction ... she'll go "what's the point?" ... but then working with her partner she suddenly got the ideas ... about three pictures into the storyboard she changed it to hers. For her, the grin across her face - she got it, she knew what she was doing, she could succeed in it (Class teacher, in interview).

Children whose first language is not English experienced some success through the digital storytelling process. Philip, an English as an Additional Language (EAL) learner who also has serious learning difficulties, surprised and delighted the class teacher by completing a storyboard: "[Philip] was actually willingly writing sentences! - 'the got hum dint see nofing.'" (Then when he got home, he didn't see anything). In Sept. he had no phonic knowledge" (Class teacher's observation notes, lesson 1).

Another EAL learner showed unexpected confidence and persistence while recording his story script on the iPad in the presence of two adults and two other children:

I think it was lovely that David, who ... didn't speak the first two years he was here, had the confidence to do that and yes there were gaps in it, but he kept going and it was just so moving ... (Class teacher, in interview).

So "struggling writers" were motivated to complete their digital stories through a streamlining of the creative process (through the use of storyboarding) and the multimodal possibilities of the iPad device. It would be interesting to investigate whether prolonged use of these methods would result in further impacts on self-esteem and whether these children could begin to "reposition themselves as competent writers" (Greenidge & Sylvester, 2009).

Social learning

There were many opportunities for social and collaborative learning, including: sharing ideas in whole class discussions; sharing story ideas and responding in pairs and small groups; helping each other to record their scripts; instructing each other; and sharing completed stories on the big screen. It was particularly evident how respectful of each other the children were during the activities. They were silent when required during recordings and appreciative during screening. When the lead group of six became the teachers, their role as group leader was respected, even in the case of Thomas who, the teacher said, did not always find it easy to communicate with peers or be accepted by them.

Observations showed that the sharing of an iPad between four or five children led to highly collaborative learning. Stories were recorded and put together one at a time and all group members took an active part in supporting whoever was being instructed, offering encouragement and suggestions as to the best way of achieving certain effects. The activities seemed to encourage patience and sensitivity to each other's needs:

I watched Olivia teaching David [an EAL learner] and noted how she talked everything through with him ... While she pushed him along quite quickly, she was also very clear and patient in the way she explained things, checking by using questions what he wanted and checking at the end of each stage if he was happy with the results (Researcher observation, session 4).

This corresponds closely to findings from another recent iPad study:

Staff in all settings commented on the children's collaboration around the iPad: they frequently and patiently shared activities, took turns, supported each other's learning and rejoiced in each other's successes. Teachers were able to build on this spirit of collaborative endeavour by sharing their achievements as a class' (Flewitt et al, 2014)

The project ended with each child's completed story being screened on the interactive whiteboard. This provided the teacher with many opportunities for individual praise and further enhanced, through the immediacy of the images and the authentic voices of the children, the atmosphere of sharing something important and an awareness and appreciation of each other. It is suggested here that this kind of activity helps to promote empathic relationships between children and between children and teacher, which are also very positive for learning (Cooper, 2011) and which therefore make screening one of the major affordances of digital storytelling.

Ease of use

Observations showed the children were adept at touch-screen technology and they adapted to a new application and picked up new techniques very quickly. iPads are very quick to load, thus saving time, and the iMovie application saves content automatically, meaning work doesn't get lost. The children were able to take photographs, source other images from the internet and record sound, all on the same device. There was easy wireless access to the internet, which also provided the children with inspiration and ideas for their stories as they researched the settings and sourced images.

As mobile IT devices, the iPads afforded great flexibility: for example, they could be taken into another room for recording when a quiet space was needed. This concurs with the findings of Nordmark & Milrad (2012), who note that “Adding a mobile dimension to the established methods of digital storytelling brings new scopes and innovative modes for producing and sharing stories and messages, both collaboratively and individually, regardless of time and place” (Nordmark & Milrad, 2012, p.11).

All of the above served to streamline a process that would have been more cumbersome with laptops or PCs and enabled children to develop their stories quickly, providing a sense of progress and achievement leading to further motivation.

Other themes arising from the data

Equality and diversity implications were evident in that not only did the activities empower the children with weaker traditional literacy skills, but they appeared to appeal to both genders equally.

From the teacher’s perspective, the activities provided a rich array of opportunities for assessment, especially speaking and listening and the development of social skills. The potential for deeper learning through self-assessment should also be noted, in that the children often critiqued their results naturally, without being prompted, probably because their stories were more “real” and “there for all to see” on the big screen.

This idea of the stories as real objects may be significant in another way. There is something about the physical processes involved in making them and the satisfaction of creating a finished product that could be said to be similar to crafting an artefact. This has the potential to

appeal to children like Michael who said “I don’t really like writing any stories because I am more like a practical person, so I don’t like just sitting writing a story” (Michael, in group interview 1).

Conclusions

Dreon et al (2011) remind us that “the development of a curricular vision for technology integration requires that teachers see effective examples modelled” (Dreon et al, p.5). The acid test for evaluating this small-scale study was whether a busy Key Stage 2 class teacher would consider it worthwhile investing further time and effort to make digital storytelling a part of her future practice, or whether limited pedagogical benefits or technological issues would prove significant barriers to adoption. In the evaluation interview, the teacher was very positive about making it a part of her practice and had already thought of ways in which she would do this. She said she wanted to make digital storytelling a part of her core literacy teaching to support future writing development (the study had taken place as part of project work during “creative curriculum” time). She also described ways in which she would use it to support an engaging curriculum and further access to the curriculum for children with weaker literacy skills.

Teachers who are considering using digital storytelling might wish to consider the contributing success factors from this case when planning their own activities. The project was grounded in the topic the children were already working on, so themes and ideas for stories were stimulated by existing knowledge. Good story writing knowledge and practice was already embedded and helped them to link existing skills to the new medium. Showing them a model digital story helped them to envisage an outcome and using storyboarding as a planning tool streamlined the process and enabled weaker writers to realise their ideas. The IT infrastructure

facilitated the project and there was a good solution in place for screening the stories. Additional adult support (in this case, the researcher) was critical, firstly for training the lead group and secondly for managing the fluidity of the lessons as children worked at different paces and spread out in search of quiet areas to record their scripts. Ensuring that there are suitable spaces available for quiet recording is critical, as is planning in sufficient time for children to re-record when they make mistakes. Script writing and illustrating are also time-consuming and adequate time should be made available in class, rather than using homework time, which in this case meant that a small minority of children did not complete.

Implications for practice and further research

According to Dixon (2010; cited in Andrews & Smith, 2011), there was a “shut-down in thinking about writing development in the 1990s after the imposition of staged “progression” in high-stakes testing regimes” during which teachers’ efforts to find the best ways of developing writing were “pushed aside in the interests of setting national tests” (p. 1). Teachers may wish to reflect on whether this narrowing of the writing curriculum means that the kinds of writing in which children and young people engage outside school are not valued in the classroom, thereby creating “a tension between the functions of writing in wider society and those in schooling and assessment” (Andrews & Smith, 2011, p. 4). They may wish to consider the potentially motivating effects of bringing the genres of writing in school closer to genres in the wider social world through working with multimodal texts, in which the paradigm shift from the dominance of written text and the book to image and the screen (Kress, 2003) is recognised. In this context, writing is no longer purely linear and sequential but requires students “to consider and understand features of design such as layout, composition, use of text and image or graphics [...]

and the way these would suit a specific audience” (Walsh, 2014 p. 215). These are the “new literacy” skills which could empower some “struggling writers” because they are closer to their social and cultural experiences outside school.

In terms of further research, a longer study would be needed to investigate whether there is a sustained impact on motivation and whether there is the transformative potential for “struggling writers” to see themselves as competent writers. A longer timescale would also allow for exploration of what makes a good digital story and how the informal, multimodal approach used in digital storytelling can best be combined with the more formal approaches used in traditional literacy to improve children’s story writing. The potential for developing reflective and deeper learning through self and peer assessment of digital stories could also be explored.

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